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ABSTRACT

Researchers investigated whether there was a difference in learning when teachers used PowerPoint software. Study participants were 143 students in a teacher education program at a mid-sized midwestern university. Students ranged in age from 20-48 years and were primarily Caucasian. Class size ranged from 33-39 students each of the four semesters of the study. During the first two semesters, students were shown traditional overheads on elements of a comprehensive school drug education program. This lecture/discussion lasted 1 hour and 20 minutes. Six questions on a mid-semester test were from this lecture. Researchers developed a PowerPoint presentation for this exact set of overheads, using a colorful template that would appeal to a teacher education audience, with graphics and images added to the text to increase the visual impact. Transitions were added. The lecture/discussion time was again 1 hour and 20 minutes. The PowerPoint presentation was used in the next two semesters instead of the traditional overheads. Researchers gathered test scores again at mid-semester using the same instrument and questions. Data analysis indicated that there was very little difference in test scores when comparing test scores following traditional overheads and PowerPoint presentations. The study suggests that technology is not a magic bullet, and what is most important in the classroom is a good teacher. (SM)

Powerpoint Versus Traditional Overheads
Which is More Effective For Learning?

Conference Proceedings from the
South Dakota Association for
Health, Physical Education and Recreation
Sioux Falls, South Dakota, November 1998

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Powerpoint Versus Traditional Overheads Which is More Effective for Learning?

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Many of us are using power point today to enhance our teaching in the classroom in health and physical education. You may have questions and concerns about using technology in the classroom. Questions such as how do you use powerpoint technology? Is it more effective for students? Will using powerpoint increase students' retention of health or physical education instruction? Is using powerpoint worth extra effort on the part of the health instructor?

This paper will discuss some of these questions based on a study which investigated whether there is a difference in learning by using technology available through powerpoint software.

Methods

Participants were 143 students in a teacher education program, at a medium size university in the Midwest. Subjects ranged in age from 20 to 48 and were primarily Caucasian, with two black students. Class size ranged from 33 to 39 each of the four semesters during which the study was conducted. During the first two semesters, students were shown traditional overheads on elements of a comprehensive drug education program in schools. This lecture/discussion lasted one hour and twenty minutes. Six questions on a test at mid semester were from this lecture. The questions consisted of two true and false, two multiple choice, and two short answer.

A power point presentation was created for this exact set of overheads. A colorful template that would appeal to a teacher

education audience was used, with graphics and images added to text to increase visual impact. Transitions were added. Two experts in technology design and delivery looked at the powerpoint to approve format and style. The lecture/discussion time again was one hour and twenty minutes.

During two semesters the powerpoint presentation was used in place of the traditional overheads. Test scores were gathered again at mid semester using the same instrument and questions.

Results

Table one shows the results of the comparison of using powerpoint versus traditional overheads. Combined scores of percent of the class which answered the question correctly are shown from the two semesters using each teaching method. See Table 1. Overall the results showed very little difference in test scores when comparing using traditional overheads and powerpoint technology. Table 1 shows that more students answered two questions correctly, and two questions incorrectly, thus demonstrating little real increase in teaching effectiveness to the class as a whole when compared by test scores.

Discussion

These results were shared with various groups of faculty at presentations and conferences. Prior to reporting the results, the groups were polled for expected results. Most often they expected a positive impact from using powerpoint technology. When asked for input on the perplexing lack of difference in test scores, suggested factors were that some students may be distracted by added visual images, or that others who are not visual learners may not make gains from either modality.

Table 1. Percentage of Correct Responses of Test Questions using Traditional Overheads or Powerpoint

Test Item	Traditional Overheads	PowerPoint Presentation
MC # 1	80% (Correct)	90%
MC # 16	58%	54%
TF # 12	68%	42%
TF # 13	94%	82%
Short #3	20%	26%
Short # 4	100%	100%

Conclusion

The most important conclusion from this study was that technology is not a magic bullet. As we advance in the use of technology, we need to remember what is and always has been most important in the classroom: good teachers. Knowledgeable, enthusiastic, instructors who can teach to different learning styles are still the critical factor in the classroom.

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